

## SIX NEW GENERA OF NEARCTIC MUSCOIDEA.

BY CHARLES H. T. TOWNSEND.

The following six new genera are erected for as many described North American species, which can not be placed in any previously erected genera known to me. The reproductive habits of four of these genera are known, and these four are treated in a forthcoming paper on the female reproductive system, eggs, and early stages of muscoid flies.

**Neophorocera, gen. nov.**

Erected for *Phorocera edwardsii* Will. (*Euphorocera claripennis* Coq. pt.). The male has the second antennal joint hardly at all elongate, while the female had it noticeably so. The length of the second antennal joint thus becomes a secondary sexual character in this genus, which is the first case of the kind known to me in this immediate group. In the salmaciine and belvosiiine flies the same secondary sexual character of the second antennal joint is much more pronounced.

Reproductive habit, oviposition of flattened macrotype egg on host. The egg-chorion is honeycomb-reticulate and without operculum. The uterus is absent, but the uterovagina of one of the dissected specimens (TD394) showed an egg containing a fairly developed maggot. This development of the maggot in the uterovagina is probably exceptional, due to undue retention of egg from failure to find a suitable host. (TD394, coll. by D. H. Clemons, Aug. 22, 1908, Melrose Highlands, Massachusetts, and determined by W. R. Thompson as *Euphorocera claripennis* Coq.).

*Type: Phorocera edwardsii* Will., Scudder's Butterflies of New England, vol. III, p. 1921.

The genera *Exorista*, *Tricholyga*, *Euphorocera*, and *Chaetotachina* have the egg-chorion without reticulation and furnished with an operculum at the cephalic end. *Winthemia* appears to lack both reticulation and operculum. *Chaetolyga* and *Nemorilla* appear to have the chorion reticulate and without operculum, but are at once distinguished from *Neophorocera* by their ciliate hind tibiae.

**Euacemyia, gen. nov.**

Erected for *Acemyia tibialis* Coq. The frontal bristles stop at base of antennae, the vibrissae are inserted well above oral margin, the third antennal joint of female is only about one and one-half times as long as second, the cheeks of female are only one-fifth of eye-height, the apical cell is open and ends well before wing-tip. In *Acemyia* the frontal bristles descend nearly or quite to base of third antennal joint, the vibrissae are inserted practically on the oral margin, the third antennal joint of female is fully or more than twice as long as second, the cheeks of female are over one-

third of eye-height, and the apical cell ends almost in wing-tip. The macrochaetae of abdomen are only marginal in both genera.

Reproductive habit unknown.

*Type: Acemyia tibialis* Coq., Rev. Tach., p. 116.

*Acemyia acuticornis* Meig. had been reared in Europe from *Acridium*. *Acemyia dentata* Coq., which is not at all typical of the genus, having the apical cell closed and ending well before wing-tip, and the eyes in female descending almost to the level of the vibrissae, has been reared in North America from *Melanoplus* and *Chortophaga*.

#### **Doryphorophaga, gen. nov.**

Erected for *Lydella doryphoræ* Riley. It belongs with the compsilurine flies, and bears a strong general resemblance to *Compsilura concinnata*. The eyes are thickly hairy, the facialia are ciliate on about lower two-thirds, the bend of fourth vein is without stump or wrinkle, the intermediate abdominal segments bear discal bristles, and the ventral carina and curved spine-like piercer, both of ordinary character, are present in the female. It differs from *Compsilura* principally in having the second antennal joint noticeably elongate, and the parafacials widened. Differs from *Lydella* and *Dexodes* in the thickly hairy eyes, ciliate facialia, and frontal bristles not descending low; from *Incamyia* in the last character and the ordinary ventral carina; and from *Eucelatoria* in the hairy eyes and the elongate second antennal joint.

Reproductive habit, subcutaneous larviposition in host. The uterus is long, slender, and coiled, and develops white maggots in single file to the number of about 150. The maggot has well-developed rows of microscopic spines, of which the first three rows and the last row encircle the body, the intermediate six rows being on ventral surface and about half encircling the body. (TD370, coll. by D. H. Clemons, Aug. 17, 1908, Melrose Highlands, Massachusetts, and determined by W. R. Thompson as *Phorocera doryphoræ*.)

*Type: Lydella doryphoræ* Riley, First Report, Insects of Missouri, p. 111.

The type species has been repeatedly reared from the larvae of *Leptinotarsa (Doryphora) decemlineata* in the northern and eastern United States as far west as Missouri.

#### **Neadmontia, gen. nov.**

Erected for *Admontia limata* Coq. Whole body strongly bristly. The true frontal bristles are numerous, strong and stop at base of antennae; a row of closely placed weak bristles runs diagonally down the parafacials below end of frontal row, but is not a true continuation of the latter. Facialia not ciliate. Arista very delicately pubescent. Third antennal joint a

little concave on upper (front) edge, the upper (front) terminal angle more or less produced into a short blunt tooth. Abdomen with discal and marginal macrochaetae. Apical cell closed almost at wing-tip.

Reproductive habit unknown, but probably larviposition.

*Type: Admontia limata* Coq., Proc. U. S. Nat. Mus., vol. xxxv, p. 105.

Coquillet's interpretation of the genus *Admontia* is a complex. His *Ad. demylus* is evidently one of the compsilurine flies, as indicated by the statement in description that the abdomen of female is thickly beset with short spines on underside of third and fourth segments. It parasitizes *Cophyrus* larvæ. It is possible that his *Ad. retinæ*, described from males only, is an *Actia*. His *Ad. polita* probably belongs to the present genus *Neadmontia*. His *Ad. pergandei* and *degeerioides* seem to fit the genus *Admontia*. His *Ad. setigera* (San Mateo County, California, specimen) is a different genus from all of these. It lacks discal abdominal bristles, and bears on parafacials a true continuation of frontal bristles in a row extending to lower border of eye, all the frontal and parafacial bristles being of equal strength at root. This California specimen is a female and shows no ventral carina.

Specimens determined by J. A. Hyslop as *Admontia pergandei* Coq. were reared by him from larvæ of *Tipula infusata*, Jackson, Tennessee. Nineteen flies issued from October 7 to 14, 1908. A reared female was found by Hyslop to contain 103 elongate eggs. The genus is recorded as parasitic in larvæ of Tipulidæ in Europe. The female probably deposits maggots on the surface of the soil, and these penetrate later in search of the tipulid larvæ.

TD389, collected by D. H. Clemons, August 21, 1908, North Saugus, Massachusetts, and determined by W. R. Thompson as *Admontia degeerioides* Coq., showed a slender uterus containing about 55 eggs and maggots similar to those of the compsilurine flies in general appearance. Female without piercer, with discal abdominal bristles, ciliate facialia, long, slender third antennal joint, and apical cell ending near wing-tip.

#### Oxexorista, gen. nov.

Erected for *Exorista eudryæ* Towns. This has the general external characters of *Sisyropa*. But until the female of *Tachina thermophila* Wied. of Java (type of *Sisyropa*) is dissected, we shall not be able to say what the genus *Sisyropa* is. *Eumasicera coccidella* Towns. has apparently the same general external characters as *T. thermophila* Wd., and the female fly is almost indistinguishable externally from the female of *Sisyropa hemerocampæ* Towns. Yet the last (TD387, Gip. Moth Lab. 1976) deposits

elongate white maggots on or near host, while the first (TD388, Gip. Moth Lab. 1975) deposits black microtype eggs on foliage. Thus *Sisyropa* may have either one of these habits, or perhaps still a different one. *Sisyropa hemerocampæ* Towns. (syn. of *Exorista amplexa* Coq., acc. W. R. Thompson) probably does not belong to the present genus. Its egg shows no sign of pedicel, while the dissected eggs of *Exorista eudryæ* (TD395) showed an atrophied pedicel. It is most probable that *Sisyropa hemerocampæ* Towns. is congeneric with *T. thermophila* Wd., since both have the front very narrow, the cheeks and especially parafacials extremely narrow, and the eyes thickly hairy.

Reproductive habit, larviposition of white maggots on or near host. The maggot is fat, with 13 wide and complete rows of microscopic spines encircling the body, the spines somewhat weaker dorsally. The spermathecal ducts are elongate and doubled on themselves. Uterine capacity up to 200 or 300 eggs and maggots. (TD395, collected by D. H. Clemons, Aug. 22, 1908, Melrose Highlands, Massachusetts, and TD425, collected by F. B. Lowe, August 29, 1908, near Swampscott, Massachusetts; both determined by W. R. Thompson as *Exorista eudryæ* Towns.)

*Type: Exorista eudryæ* Towns., Trans. Am. Ent. Soc., vol. XIX, pp. 287-288.

#### **Euexorista, gen. nov.**

Erected for *Exorista futilis* O. S. This has the general external characters of *Parexorista*, and was referred to that genus by B. and B., along with the host of other species of various reproductive habits. Thus B. and B.'s *Parexorista* is another mixed-reproduction genus. The present form has no discal bristles on intermediate abdominal segments, and the hind tibiæ are ciliate.

Reproductive habit, leaf-oviposition of black microtype eggs. Uterine capacity up to 2,000 or 3,000. Chorion with a low power shows a beaded net-like design, the bead strings running from pole to pole and more or less interlaced into a network; with high power (oil immersion) it shows a structure composed of a microscopic network of chitin, the lines of chitin being much narrower than the open spaces between them. (TD361, August 15, 1908, Spot Pond, near Melrose, Massachusetts, and TD344 August 13, 1908, North Andover, Massachusetts; both collected by D. H. Clemons, and determined by W. R. Thompson as *Exorista futilis* O. S.)

*Type: Tachina (Exorista) futilis* Osten-Sacken, Can. Ent., vol. XIX, p. 161.

It appears from the descriptions that this species can not belong to *Epimasicera*, type *Tachina westermanni* Zett. (syn. of *Tachina mitis* Meig., acc. Thomson, Bezzi and Stein), since this genus has two pairs of median discal macrochaetæ each on second and third abdominal segments and the hind tibiæ are not ciliate.